

A STUDY OF ONE HUNDRED CASES
OF
PSYCHOPATHIC PERSONALITY

BY LOIS GARRETT

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OF
PSYCHOPATHIC PERSONALITY

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HEREDITY TAINTING IN PSYCHOPATHIC PERSONALITY

STATEMENT OF PROBLEM

This study was undertaken in an effort to determine the amount of heredity tainting in a group of patients with psychopathic personality and to compare that tainting with that in the heredity of other psychotic and non-psychotic groups as found by other workers. The method of Koller (17) and Diem (8) was followed.

HISTORICAL SUMMARY

So much work has been done on the subject of heredity and it has been so frequently and well summarized that it would be a hopeless and useless task to attempt to recount even a small portion of it here. Holmes' "Bibliography of Eugenics" published by the University of California will supply the interested reader with a very excellent complete list of references on various phases of this subject.

The interest in the heredity of mental diseases has been long-standing. As Wimmer (38) points out, the classical authors spoke of the heredity of mental diseases. He continues: "C'est cependant seulement lors de la periode florissante de la psychiatrie en France, au commencement et au milieu du siecle passe, que la question de l'heredite trouve sa premiere elaboration scientifique, au point de vue clinique et statistique: pour Pinel, Esquirol, Moreau de Tours, Baillaiger, etc., l'heredite des affections mentales devient un fait etabli, 'la cause des causes' ainsi que l'a dit Trelat. Et l'heredite demeure la pierre angulaire du systeme psychiatrique de Morel et de sa theorie de la degeneration psychique progressive de races."—1

To-day the work of these earlier psychiatrists is of historical interest even though later research has disproved some of the theories which they advanced. In 1844, Baillaiger (2) emphasized a fact which is to-day considered one of the fundamental principles of statistical study when he said, "Il est evident, en effet, que pour les questions de cette nature la verite ne peut ressortir que d'un tres grand nombre de faits."—2

Perhaps the main weakness in the work of most of those studying the heredity of mental diseases during the nineteenth century lay in their tendency to group the various diseases together rather than to consider them separately. Wimmer (38) points out that even though Esquirol, Morel, Marc, Baillaiger, Dautremont,

1.—(38) p. 129
2.—(2) p. 339

Fabet, Brierre de Boismont, etc. were not guilty of this fault since they related individual cases of homogeneous heredity, that is, the forms of psychoses in the ancestors and descendants agreed in the essential clinical points, nevertheless the majority of their contemporaries and successors relied almost exclusively on the theory of general heredity. He quotes Legrand du Saulle as saying, "*L'heredite est essentiellement polymorphe et la regle generale, c'est que les affections mentales se transforment en se transmettant.*"—3 Although, at present it is considered important to study heredity in various specific mental diseases, nevertheless, since knowledge of heredity is still in a somewhat chaotic state, one wonders if Wimmer is quite justified in his severe criticism of his compatriots and the German psychiatrists and neurologists who a little later based their work on the hypothesis of this "common hereditary predisposition."

As in other phases of psychiatry, much work on the heredity of mental diseases has been done in Germany. The method followed in the present work was used by Koller (17) in 1895 and by Diem (8) in 1905. Koller studied the heredity of psychotic conditions in general, whereas Diem studied the heredity of both psychotic and non-psychotic conditions. Later Kalb (16) applied this method to the study of heredity in paresis; Snell (32) studied epilepsy; Sunner, (35) manic-depressive psychosis; and Barrett, (4) schizophrenia. All of this work, with the exception of that done by Barrett, was done in Germany. The work done by this group is of interest, as all the workers followed the same method and their results are therefore comparable.

A great deal of the work done in this country on the heredity of mental diseases has been done by the scientists affiliated with the Eugenics Laboratory at Cold Springs Harbor, New York. Davenport (5 and 6) has been a leading figure in this work. Associated with him have been Weeks, (6), Goddard, Muncey, Rosanoff, Orr and others. The work of this group has been severely criticized by the English biometricians, especially Pearson and Heron. (15) Myerson, (23) who is somewhat less harsh in his criticisms than are the biometricians, summarizes his objections thus: "The most serious criticism that is to be made against the Davenport School is that it postulates Mendelism in advance, considers all its researches only in the light of this theory, and dismisses entirely all other concepts. It is well to have a working hypothesis, but when the hypothesis is made of primary importance then indeed it hinders rather than helps science."—4

On the other hand, the biometricians themselves have not

3.—(38) p. 130

4.—(23) p. 282

escaped criticism. Pearson, (27) one of the founders of the biometric school, did some work on the heredity of mental diseases. His efforts were criticized by numerous psychiatrists on the grounds that the non-medical statistician should not attempt an analysis of medical data except under the direct supervision of a physician.

And so the study of the heredity of mental diseases has continued, the main difficulty lying in the general lack of agreement between workers of different schools. Probably, however, this very lack of agreement is a healthy sign, preventing as it does a blind acceptance of ill-founded or unwarranted conclusions.

In comparison with the work done on the other mental diseases, relatively little has been written on the subject of psychopathic personality. This is probably due to the fact that diagnosis of this disease has been so vague and indefinite that most writers have preferred to confine themselves to the study of those diseases with more clearly differentiated symptoms. However, a number of writers of text-books have included a chapter or a section on this disorder—for instance, Strecker and Ebaugh, (34) Kraepelin, (18) Rosanoff, (30) Kraft-Ebing (19) and White (37). Healy, (12, 13, 14) also, in his various studies of delinquent children did some work on this subject. At present Partridge (24, 25, 26), working at Sheppard and Enoch Pratt Hospital, Baltimore, is engaged in an extensive study of psychopathic personality. It is to be hoped that Partridge's research will stimulate others to work on this hitherto neglected subject.

SOURCE OF MATERIAL

The material for this study was obtained from the hospital records of one hundred patients who were admitted to the State Psychopathic Hospital at Ann Arbor between August 3, 1916 and December 27, 1928 and were subsequently diagnosed psychopathic personality. The territory from which these patients come is largely confined to the southeastern part of Michigan, an especially large number of them coming from Detroit. The patients sent here are a selected group, having been chosen on the basis of interesting or unusual features which would warrant the intensive individual study which they receive at this hospital. Thus it will be seen that these patients are not comparable to the population of the state as a whole, nor are they comparable to the patients in the other Michigan state hospitals.

More than 100 patients, with the diagnosis of psychopathic personality, were admitted to the hospital during this period; but

in some cases the histories were incomplete or unreliable, being given only by the patients themselves, and so could not be used. The only criterion of selection used was that all cases in the study have full, complete and, in so far as could be determined, reliable histories.

Of course, 100 is a very small number of cases for any statistical study. Our excuse for the smallness of this number is that comparatively few of these cases are admitted to hospitals. Undoubtedly many psychopathic personalities are at large in the world and never reach hospitals. Probably much more valuable information could be obtained if it were possible to study a large number of these non-hospitalized psychopathic personalities. Since this is obviously impossible, the writer hopes, in the future, to be able to study many more of these patients in hospitals and to incorporate the future results with the results of the present study.

SEX

The patients in this group are fairly well divided according to sex, as there are 47 males and 53 females. This slight excess of females seems in no way significant and is probably due to mere chance distribution.

DEFINITION OF "PSYCHOPATHIC PERSONALITY"

Psychopathic personality, or, to use the older term, constitutional psychopathic inferiority, has been defined in various ways by different authorities. For instance, Diefendorf—5 says: "Those psychopathic conditions which develop on a morbid constitutional basis include an extensive borderland between pronounced morbid states and mere personal eccentricities which are wont to be regarded as normal. We consider personal deviations from the regular course of mental development as morbid only when they are of special consequence to the mental life but the distinction is one of degree and is to a certain extent arbitrary. There is a considerable group of such morbid conditions which may be properly regarded as mental deformities. They are not characterized by any definite disease process, but rather by a general deviation from the normal mental life." Rosanoff—6 characterizes the group thus: "There is a large group of persons who though not necessarily suffering from epileptic, psychotic or psychoneurotic symptoms, alcohol or drug addiction, or subnormal intelligence, are nevertheless incapable of attaining a satisfactory adjustment to the average social environment. This group is very heterogeneous,

5.—(7) p. 515.

6.—(30) p. 186.

yet there is much evidence, in family and personal histories and in clinical manifestations to show that the various conditions comprised in it are in some way related to one another and to other neuropathic conditions. The maladjustment in these cases seems to arise on a basis of inherent anomalies of judgment, temperament, character, ethical sense, or sexual make-up. It need hardly be added that both the underlying defect of personality and the social maladjustment vary in degree and that, moreover, not all social maladjustment rests upon constitutional abnormality of the individual." White describes individuals of this group in the following words: "There are many anomalies of character which because normal or usual to the individual cannot be said to properly constitute a psychosis, but because they lead to a rather inefficient type of adjustment of the individual to his environment, and because persons exhibiting these peculiarities often become actively disordered, may be considered as borderland conditions."—7

In the "Statistical Manual for the use of Hospitals for Mental Diseases" published by the Department of Statistics of the National Committee for Mental Hygiene, Kirby—8 says of psychopathic personality, "Under the designation of psychopathic personality is brought together a large group of pathological personalities whose abnormality of make-up is expressed mainly in the character and intensity of their emotional and volitional reactions. To meet the demands of current usage, the term for this group has been shortened from the older one, 'psychoses with constitutional psychopathic inferiority' with which it is synonymous. Individuals with an intellectual defect ((feble-mindedness) are not to be included in this group.

"——all of the so-called constitutional psychoses, manic-depressive, dementia praecox, paranoia, psychoneuroses, etc., may be considered as arising on a basis of psychopathic inferiority or constitution, because the previous mental make-up in these conditions shows more or less clearly abnormalities in the emotional and volitional spheres. These reactions are apparently related to special forms of psychopathic make-up now fairly well differentiated, and the associated psychoses also have their own distinctive features.

"There remain, however, various other less well-differentiated types of psychopathic personalities, and in these the psychotic reactions (psychoses) also differ from those in the preceding groups.

"It is these less well-differentiated types of emotional and

7.—(37) pp. 321-322.

8.—(33) pp. 32-33.

volition deviations which are to be designated, at least for statistical purposes, as psychopathic personality. The type of behavior disorder, the social reactions, the trends of interests, etc., which psychopathic personalities may show, give special features to many cases, for example, criminal traits, moral deficiency, tramp life, sexual perversions and various temperamental peculiarities.

"The pronounced mental disturbances or psychoses which develop in psychopathic personalities and bring about their commitment are varied in their clinical form and are usually of an episodic character. Most frequent are attacks of irritability, excitement, depression, paranoid episodes, transient confused states, etc. True prison psychoses belong in this group.

"Psychopathic personalities without an episodic mental attack or any psychotic symptoms should be placed in the *without psychosis* group under the appropriate subheading."

Thus it must be borne in mind that there are two groups of psychopathic personalities—those with psychoses and those without. Patients from both groups were included in this study.

A study of these various definitions will show that they all emphasize the fact that the psychopathic personality is a congenital constitutional defect which manifests itself in abnormal conduct and maladjustment to the environment. Its clinical symptoms are much less clearly defined than are those of the various psychoses. It thus follows that diagnosis is often extremely difficult. It is not surprising then that cases of this disorder are sometimes left undiagnosed or classified as belonging to other groups. Thus many psychopathic personalities are at large in the community; and, while it is recognized that they are "queer" or eccentric, they have never received the definite diagnosis which is undoubtedly their due.

METHODS

The investigator who embarks upon a study of any phase of human heredity soon finds himself confronted with many difficulties. Perhaps the main difficulty lies in the fact that human heredity is not a laboratory science, wherein it differs from the heredity of plants and the lower animals. At best, the method of studying human heredity is that of observation of uncontrolled events rather than that of experimentation. One defect of such observation is that it is greatly influenced by the subjective element. It is a common thing to find two members of a family, both of whom,

presumably, knew the person under discussion equally well, differing greatly in their opinions of the qualities possessed by that same individual. Ideally, the worker in heredity should observe personally all the members of the family being studied. Obviously this is impossible. Except in a few very isolated communities or among the extremely low grade, modern families are so widely scattered that to study all the living members of a single family would involve a huge expenditure of both time and money. And, at best, not more than three, or, in exceptional cases, four generations in any one family could be studied by this method.

Another method is to use data obtained by social workers through questioning various members of the family. This method was used in the present study. The writer fully realizes its limitations. In fact, in general, she quite agrees with Myerson's criticism of Davenport's work, "—and to a medical man the sang-froid with which the social worker makes diagnosis on people she has never seen, or else met in a casual way, is nothing short of appalling. Really, it seems utterly unnecessary to have laboratories, blood tests, psychological tests, clinical examinations, and to take four years in a medical school plus hospital experience, etc., when a woman can as a result of a dozen or two lectures make all kinds of medical, surgical and psychiatric diagnoses in an interview or by reading through a court record."—9

In the present work, a sincere effort was made to guard against the foregoing charges. Our data were all obtained from the histories based on personal interviews between relatives and the hospital social workers. As these histories were written as a matter of hospital routine and not primarily to furnish data for this or any other particular study, it seems safe to assume that the histories are unbiased and that the workers were not trying to prove any particular points when preparing them. Moreover, the social workers made no diagnoses. They merely recorded the facts which they obtained. If, for instance, they learned that a relative had been in a hospital with a diagnosis of some particular psychosis, they recorded that relative as psychotic. Likewise they accepted the diagnoses of family physicians.

It will be noted that the only heredity abnormalities recorded in this study are: psychoses, nervous diseases, alcoholism, apoplexy, senile dementia, abnormal character and suicide. It must be confessed that the writer, a non-medical worker, made an occasional diagnosis. But these diagnoses were confined to two classes:

alcoholism and abnormal character. Surely even the non-medical writer is capable of deciding that an individual is afflicted with alcoholism when he is described in such term as "excessively alcoholic," "drank heavily" or "frequently intoxicated." Likewise, it is a comparatively simple matter to diagnose as having an abnormal character the non-psychotic individual whose reactions are definitely and consistently schizoid or cycloid to an extreme degree.

The main heredity question to be answered is, "How does the heredity tainting of these patients compare with the heredity tainting of other psychotic and non-psychotic groups?" There are two sub-questions which immediately arise, "What is the relative tainting of the various family lines, that is: direct, (father and mother), atavistic, collateral and siblings? What is the relative importance of various kinds of tainting, as psychosis, nervous disease, alcoholism, apoplexy, senile dementia, abnormal character and suicide?"

As an explanation of method, we can do no better than to quote Dr. Barrett whose example we followed, "Following the method of Diem, where tainting occurs in both paternal and maternal lines, that of the father is chosen. In the selection of the family relationship in which the taint occurs, the order of precedence is direct, atavistic, indirect and siblings. Where different tainting factors occur in the family or in the same individual, the order of precedence is psychoses (including feeble-mindedness, epilepsy and psychoneuroses), suicide, abnormal character, nervous diseases, alcoholism and apoplexy."—10

TABLE 1A
Heredity Tainting in 150 Cases of Schizophrenia
(Barrett)

	Direct					
	Father	Mother	Atavistic	Collateral	Siblings	Total
Psychoses	7.33	7.33	6.67	8.67	2.67	32.67
Nervous diseases	1.33		1.33			2.66
Alcoholism	9.33		2.67	.67		12.67
Apoplexy	.67		9.33	1.33		11.33
Senile dementia			.67			.67
Abnormal character ..	6.0	2.67	2.0	4.0	2.0	16.67
Suicide						
Total	24.66	10.	23.34	15.34	4.67	78.01

TABLE 1B
Hereditary Tainting in 100 Cases of Psychopathic Personality
Percentage

	Direct		Atavistic	Collateral	Siblings	Total
	Father	Mother				
Psychoses	6.00±.016	24.00±.029	11.00±.021	8.00±.018	4.00±.013	53.00±.034
Nervous diseases				1.00±.007		1.00±.007
Alcoholism	8.00±.018	1.00±.007	4.00±.013	1.00±.007	1.00±.007	15.00±.024
Apoplexy			2.00±.009			2.00±.009
Senile dementia						
Abnormal character ..	7.00±.017	1.00±.007	2.00±.009	4.00±.013		14.00±.023
Suicide			2.00±.009	3.00±.012		5.00±.015
Total	21.00±.027	26.00±.030	21.00±.027	17.00±.025	5.00±.015	90.00±.020

(Only the nearest tainting factor counted)

RESULTS

Table I shows the distribution of the heredity tainting in 150 cases of schizophrenia as found by Barrett and also our own results in the study of the heredity tainting of 100 cases of psychopathic personality. In this table, only the nearest tainting factor was counted in each case.

A comparison of the nearest heredity tainting factors of psychopathic personality with those of schizophrenia yields the following results. The psychoses are a more important tainting factor in psychopathic personality than in schizophrenia, 53:32.67. Nervous diseases are nearly the same, 1: 2.66. There is a slight excess of alcoholism in the families of the psychopathic personalities, 15: 12.67. There is less apoplexy, 2: 11.33. No senile dementia as against 0.67% in the schizophrenics. Slightly less abnormal character, 14: 16.67. Suicide is more common in the families of the psychopathic personalities, 5: 1.34. For the psychopathic personalities there is a total heredity tainting of 90% as against one 78.01% for the schizophrenics. It should be remembered that this table shows only the nearest tainting factor.

Table II is based on a table compiled by Barrett in which are included the results of studies on various groups of the psychotic and non-psychotic and also the results of our study of the heredity tainting of 100 psychopathic personalities. In this table, all tainting factors are recorded. It will be seen from this table that the heredity tainting is higher for psychopathic personality than for any other group. The nearest approach to this figure is that for the manic-depressive group, 90: 84.13. It exceeds the figures for the other groups in the following proportions: non-psychotic conditions, 90: 67; psychotic conditions (Koller 90: 69, Diem 90: 82); paresis, 90: 67.7; epilepsy, 90: 81.26; schizophrenia 90: 78.01.

As to the prevalence of psychoses in the heredity, this group seems to hold a median position. It exceeds the non-psychotic group, 32.82: 15.1; the parietic group, 32.82: 26.7 and the epileptic, 32.82: 22.51. On the other hand, it is exceeded by the undifferentiated psychotic group, 32.82: 45.9; the manic-depressive, 32.82: 43.86 and the schizophrenia, 32.82: 43.22.

There are fewer nervous diseases in this group than in any of the other groups studied, in all, only 3.82%. The nearest approach to this figure is that for schizophrenia, 3.82: 4.76. The relations of this percentage to the percentage of the other groups are: non-psychotic conditions, 3.82: 14.9; psychotic conditions

HEREDITY FACTORS AND

		Psychoses	Nervous Diseases	Alcoholism
Non-psychotic Conditions 1193 (Diem)	Direct	35	86	138
	Atavistic	33	22	74
	Collateral	144	75	146
	Siblings	82	108	55
	Total heredity Percent	294 15.1	291 14.9	413 21.3
Psychotic Conditions 3515 (Koller and Diem)	Percent Heredity Factors	45.9	5.1	20.9
	Direct	10	6	13
	Atavistic	8	1	8
	Collateral	19	8	3
	Siblings	22	9	7
205 Paresis (Kalb)	Total heredity Percent	59 26.7	24 10.9	31 14.0
	Direct	21	60	95
	Atavistic	19	13	16
	Collateral	45	25	11
	Siblings	28	44	8
352 Epilepsy (Snell)	Total heredity Percent	113 22.51	142 28.28	30 25.89
	Direct	151	136	77
	Atavistic	60	27	11
	Collateral	128	28	17
	Siblings	143	75	3
650 Manic-depressive (Sünner)	Total heredity Percent	483 43.86	266 15.10	108 9.8
	Direct	27	2	14
	Atavistic	16	4	8
	Collateral	58	6	7
	Siblings	17	1	2
150 Schizophrenia (Barrett)	Total heredity Percent	118 43.22	13 4.76	31 11.36
	Direct	32	1	22
	Atavistic	19	3	28
	Collateral	24	5	20
	Siblings	10	1	3
100 Psychopathic personality	Total heredity Percent	85 32.82±.020	10 3.82±.008	73 27.86±.019

DISTRIBUTION

TABLE II

Apoplexy	Senile dementia	Abnormal character	Suicide	Total factors	Line of heredity	Average number of tainted relatives
83	21	75	6	444	33	1.63
163	97	57	6	452	} 29	
93	25	190	12	685		
19	1	92	7	364		
358	44	414	31	1,945		
18.4	7.4	21.3	1.6	100	67	
					50-57 12-16	
5.5	1.4	18.8	2.3		7-9 69-82	
17	2	10	3	61	27.3	
28	4	1	1	51	} 30.7	
20	1	3	5	59		
		10	2	50		
65	7	24	11	221		
29.4	3.2	10.9	4.9	100	67.7	1.08
19	1	38	3	237	59.09	
12	1	9		70	} 16.77	
1	1	10	9	102		
1		10	2	93		
33	3	67	14	502		
6.57	0.59	13.34	2.79	100	81.26	1.43
70	18	72	11	535	65.53	
51	13	19	5	86	} 14.76	
6	2	18	18	217		
3		18	19	261		
130	33	127	53	1,199		
11.8	3.0	11.5	4.8	100	84.13	1.84
1		14		58	34.66	
27	3	10	2	70	} 38.69	
12	2	15	6	106		
		19		39		
40	5	58	8	273		
14.65	1.83	12.24	2.93	100	78.01	1.82
1		21	1	78	47	
10	1	11	2	74	38	
8		20	5	82	} 5	
		14		28		
19	1	66	8	262		
7.25±.011	0.38±.002	25.00±.018	3.05±.007	100	90	2.62

3.82: 5.1; paresis 3.82: 10.9; epilepsy 3.82: 28.28; manic-depressive 3.82: 15.10.

Alcoholism in the heredity of this group is 27.86%. This is higher than the figure for any other group. It exceeds the percentages for the other as follows: non-psychotic, 27.86: 21.3; psychotic, 27.86: 20.9; paresis, 27.86: 14.0; manic-depressive, 27.86: 9.8; schizophrenia, 27.86: 11.36; epilepsy, 27.86: 25.89.

There is relatively little apoplexy among the relatives of psychopathic personalities, 7.25%. This is slightly more than that for the epileptic group, 7.25: 6.57. It is also more than that for the undifferentiated psychoses, 7.25: 5.5. It is less than that for the other groups in the following proportions: non-psychotic conditions, 7.25: 18.4; paresis, 7.25: 29.4; manic-depressive, 7.25: 11.8; schizophrenia, 7.25: 14.65.

Senile dementia is less of a tainting factor in this group than in any other, 0.38%. It is, however, very close to the figure given for the epileptic group, 0.38: 0.59. It is also close to the figure arrived at for the undifferentiated psychotic group, 0.38: 1.4, and for schizophrenia, 0.38: 1.83. It is less than the figures for the other groups in the following proportions: non-psychotic conditions, 0.38: 7.4; paresis, 0.38: 3.2; manic-depressive, 0.38: 3.0. The small amount of senile dementia and apoplexy in the families of these patients is doubtless due to the fact that this is a young group. The average age of this group is 20.30; and the model age is 17 years. Since the patients themselves are so young they naturally do not have so many old relatives as would, for instance, a group of peretics, whose disease is one of middle life. Senile dementia and apoplexy are, of course, diseases of advanced age. Therefore it is natural that they should be rare among the relatives of our young patients. Should this same group of patients be studied forty years hence, it is probable, or at least possible, that the amount of apoplexy and senile dementia in their families would have greatly increased.

Abnormal character is more common among the relatives of these patients than among the relatives of any other group, 25%. This is not at all surprising when one considers that psychopathic personalities themselves have abnormal characters. The nearest approach to this figure is in the non-psychotic conditions, 25: 21.3. The relations of this figure to those of the other groups are: schizophrenia, 25: 21.24; psychotic conditions, 25: 18.8; epilepsy, 25: 13.34; manic-depressive, 25: 11.5; paresis, 25: 10.9.

There was slightly more suicide among the relatives of the psychopathic personalities than among the relatives of the schizo-

phrenics, 3.05: 2.93. This is more than the figure for epilepsy, 3.05: 2.79; psychotic conditions, 3.05: 2.3; or non-psychotic conditions, 3.05: 1.6. It is less than that for manic-depressive and paresis which are respectively, 3.05: 4.8, and 3.05: 4.9.

Thus it will be seen that when the total heredity tainting in psychopathic personality is considered, the heaviest tainting is from the psychoses and the lightest from senile dementia.

Table III shows the line of heredity of the nearest tainting factor.

TABLE III

Number of Tainted Patients Showing Proportion of Total Tainted in the Non-psychotic, Psychotic, Paretic, Epileptic, Manic Depressive, Schizophrenic and Psychopathic Personality Groups, Through the Direct, Indirect and Sibling Lines

(Only the nearest tainting factor noted)

	Non-psy- chotic Condi- tions	Psy- chotic Condi- tions	Paretic Condi- tions	Epi- leptic Condi- tions	Manic- De- pressive Condi- tions	Schizo- phrenic Condi- tions	Psycho- pathic Personal- ities
Direct Tainting							
Father							
Mother	33	50-57	27.3	59.09	65.53	34.66	47±.034
Indirect Tainting							
Grandparents							
Uncles	29	12-16	30.7	16.77	14.76	38.68	38±.033
Aunts							
Sibling Tainting	5	7-9	9.7	5.4	4.76	4.67	5±.015
Total	67	69-82	67.7	81.26	85.05	78.01	90±.020

In these psychopathic personalities the nearest tainting comes through the direct line in 47% of the cases. This is quite different from the figure obtained from any other group, the nearest being that for schizophrenia, 47: 34.66. Non-psychotic conditions and paresis also have less direct tainting than our group, 47:33 and 47: 27.3 respectively. However, there is greater direct tainting in epilepsy, 47: 59.09 and also in manic-depressive, 47: 65.53.

In our group the indirect tainting is not quite so heavy as the direct—38: 45. This is very close to the indirect tainting in schizophrenia, 38: 38.68. The figures for the indirect tainting in the other groups are: non-psychotic conditions, 38: 29; paresis 38: 30.7; epilepsy 38: 16.77; manic-depressive, 38: 14.76.

The sibling tainting is the same in this group as in the non-psychotic group, namely 5%. It is slightly less than that for epilepsy, 5: 5.4. It is decidedly less than that for paresis, 5: 9.7. It is slightly more than that for manic-depressive psychosis, 5: 4.76 or for schizophrenia, 5: 4.67.

The average number of tainted relatives for our 100 psychopathic personalities is 2.62. This exceeds markedly the number for any of the other groups. The nearest approach is the manic-depressive group, 2.62: 1.84. The proportions of this figure with those for the other groups are: schizophrenia, 2.62: 1.82; non-psychotic conditions, 2.62: 1.63; epilepsy, 2.62: 1.43; paresis, 2.62: 1.08.

Table IV shows the proportion of all tainting factors in the direct, atavistic, indirect and sibling lines.

TABLE IV

Proportion of All Tainting Factors in the Direct, Atavistic, Indirect and Sibling Lines. All Tainting Factors Given in Percentages
(All Tainting Factors Counted)

	Non-psy- chotic Condi- tions	Psy- chotic Condi- tions	Paretic Condi- tions	Epi- leptic Condi- tions	Manic- De- pressive Condi- tions	Schizo- phrenic Condi- tions	Psycho- pathic Personal- ities
Parents	22.8	43.7	27.6	47.21	44.62	21.25	29.77±.019
Grand- parents	23.8	9.8	22.2	13.94	15.51	25.64	28.21±.019
Uncles and Aunts	35.1	16.1	26.7	20.32	18.09	38.83	31.26±.019
Brothers and Sisters	18.8	30.4	23.1	18.53	21.76	14.29	10.68±.013

From this table it will be seen that 29.77% of the tainting of psychopathic personality comes from the parents. This is very close to the figure for parental tainting in paresis, 29.77: 27.6. It exceeds the figure for non-psychotic conditions, 29.77: 22.8 and for schizophrenia, 29.77: 21.25. However, it is less than the proportion for psychotic conditions, 29.77: 43.7, for manic-depressive, 29.77: 44.62; or for epilepsy, 29.77: 47.21.

Of the psychopathic personality tainting, 28.21% comes from the grandparents. This is more than the atavistic tainting in any of the other groups. It is most closely approached by the tainting in schizophrenia, 28.21: 25.64. It exceeds the atavistic taint-

ing in the other groups in the following proportions: non-psychotic conditions, 28.21: 23.8; paresis, 28.21: 22.2; manic-depressive, 28.21: 15.51; epilepsy, 28.21: 13.94; psychotic conditions, 28.21: 9.8.

The greatest total tainting in psychopathic personality comes from the collateral lines, 31.26%. This, however, is less than the collateral tainting in schizophrenia, 31.21: 38.83, or in the non-psychotic conditions, 31.26: 35.1. However, it exceeds the collateral tainting in the other groups in the following proportions: paresis, 31.26: 26.7; epilepsy, 31.26: 20.32; manic-depressive, 31.26: 18.09; psychotic conditions, 31.26: 16.1.

The least total tainting in psychopathic personality is from the brother and sisters, 10.68%. This is less than the sibling tainting in any other group. It is exceeded by the sibling tainting in the other groups in the following proportions: schizophrenia, 10.68: 14.29; epilepsy, 10.68: 18.53; non-psychotic conditions, 10.68: 18.8; manic-depressive conditions, 10.68: 21.76; paresis, 10.68: 23.1; psychotic conditions, 10.68: 30.4.

Thus it will be seen that in psychopathic personality the greatest total tainting is in the collateral lines and the least in the sibling lines, with the direct and atavistic lines holding second and third places respectively. The proportions for the direct, atavistic and collateral lines are so very similar that it seems impossible to give them a Mendelian interpretation.

It is obvious that there is much heredity tainting in the families of these patients. Ninety percent of them have some heredity tainting in the family; and, for the entire group, there is an average of 2.62 tainted individuals in each family (exclusive, of course, of the patient himself). When one considers that this study embraces only the parents, grandparents, uncles and aunts and brothers and sisters, he realizes that the tainting in these families is very heavy.

PATIENTS' CHILDREN

Seventeen of these patients had married, 3 of them had been divorced and remarried so that, in all, there were 20 marriages recorded. Seven of these married patients had had children: 3, one child each; 2, two children each and 2, three children each, or a total of 13 children. Of these children 2 or 15.38% had died in infancy and 2 of them had been still-births. Of the living children we have the following information. One patient had a boy of eleven who was "nervous" and enuretic. He learned easily but was very difficult to care for because he was irritable. He resem-

bled his father, our patient, in behavior. Another of the male patients had two children, a boy of nine who was in the fifth grade, had temper tantrums and was difficult to discipline; and a girl of seven in the third grade characterized as stubborn. The patient who had two still-births had also a daughter, eighteen months of age, concerning whom we have no data. Patient No. 95 had three sons, one of whom died at two weeks: he "was 'black' when born and the valves of his heart would not close properly." One of the living boys was four years old. "When younger he suffered from indigestion, was restless and active." The other boy was fourteen months old and had been in a hospital for eleven months where he was being treated for malnutrition. Patient No. 97 had a daughter seven months old. Our informant, the patient's brother, did not consider this child normal mentally. He had heard that the child was not wanted and that the patient's wife made several attempts to cause an abortion; that she was erratic, not feeding the child, and thus causing it to be malnourished. Patient No. 71 had one child which died in infancy, but we have no further information except that this was an illegitimate pregnancy which caused the parents to marry. Patient No. 62 had two boys, one ten, the other, seven, who were characterized as "nice, bright children."

Four of our other patients were illegitimately pregnant at the time of admission; but we have no data concerning their children.

Thus of the nine living children of the seven patients who had children, we have no data concerning one, two are said to be normal and six are abnormal in some respect.

CONCLUSIONS

As a result of this study we have arrived at the following conclusions:

1. Ninety percent of these patients show some heredity tainting. This is heavier than the heredity tainting for any other group studied by this method.
2. The heaviest heredity tainting in this group is psychotic in nature.
3. Of the total heredity tainting, that in the collateral lines is heaviest, that in the sibling lines, lightest.
4. While the youthful age of the group precludes its having many children, among the children who have been born there is a strikingly large amount of abnormality.

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